

Serial No. 10/633,255
12 January 2006 Reply to
15 December 2005 Office Action

Amendments to the Claims

Please cancel claims 6-14. The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A method of replenishing hydrogen in a hydrogen fuel cell stack, comprising:
 - providing a source of hydrogen for the hydrogen fuel cell stack;
 - providing a hydrogen fuel cell stack having an inlet for the introduction of hydrogen and an outlet for the removal of hydrogen;
 - providing a hydrogen delivery and recovery sub-system for supplying hydrogen to the inlet of the hydrogen fuel cell stack and recovering unused hydrogen from the outlet of the hydrogen fuel cell stack, the hydrogen delivery and recovery sub-system including a hermetically sealed regenerative pump to pump hydrogen through the hydrogen delivery and recovery sub-system and hydrogen fuel cell stack;
 - supplying hydrogen to the hydrogen delivery and recovery sub-system with the source of hydrogen;
 - pumping hydrogen through the hydrogen delivery and recovery sub-system to and from the hydrogen fuel cell stack using the hermetically sealed regenerative pump.
2. (Original) The method of claim 1, wherein the hermetically sealed regenerative pump includes an inner chamber and one or more passages within the inner chamber that hydrogen flows

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through, at least one of the one or more passages including a relief hole to balance the pressure between an inside of the one or more passages with the relief hole and the inner chamber.

3. (Original) The method of claim 1, wherein the hermetically sealed regenerative pump includes an impeller, a motor with a rotating shaft to rotate the impeller, and an anti-rotation mechanism to prevent the shaft from rotating relative to the impeller.

4. (Original) The method of claim 3, wherein the impeller includes an incurved channel and the shaft includes an incurved channel alignable with each other to form a bore, and the anti-rotation mechanism includes a rod disposed in the bore formed by the aligned incurved channels of the impeller and the shaft.

5. (Original) The method of claim 1, further including a motor to operate the hermetically sealed regenerative pump and a current controller to set and maintain the current of the motor, and the method further including using the current controller to run the motor at a constant power level, preventing overheating of the motor.

6-14 (Cancelled)